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## NiceZyme View of ENZYME: EC 3.3.1.1

**Official Name**

**Adenosylhomocysteinate.**

**Alternative Name(s)**

**Adenosylhomocysteine hydrolase.**

**AdoHcyase.**

**S-adenosylhomocysteinate.**

**S-adenosylhomocysteine hydrolase.**

**S-adenosylhomocysteine synthase.**

**SAHase.**

**Reaction catalysed**

**S-adenosyl-L-homocysteine + H<sub>2</sub>O  $\leftrightarrow$  L-homocysteine + adenosine**

**Cofactor(s)**

**NAD.**

**Comment(s)**

The NAD(+) cofactor appears to bring about a transient oxidation at C-3' of the 5'-deoxyadenosine residue, thus labilizing the thioether bond cf. EC 5.5.1.4.

**Human Genetic Disease(s)**

**Hypermethioninemia [MIM:180960](#)**

**Cross-references****Biochemical**

**Pathways; map number(s)** [H3](#)

**PROSITE** [PDOC00603](#)

**BRENDA** [3.3.1.1](#)

**PUMA2** [3.3.1.1](#)

**PRIAM enzyme-specific profiles** [3.3.1.1](#)

**Kyoto University LIGAND chemical database** [3.3.1.1](#)

**IUBMB Enzyme** [3.3.1.1](#)

## Nomenclature

IntEnz

[3.3.1.1](#)

MEDLINE

[Find literature relating to 3.3.1.1](#)

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<a href="#">Q23255</a>	SAHH1_ARATH;	<a href="#">P84533</a>	SAHH1_POPEU;	<a href="#">P51893</a>	SAHH1_XENI
<a href="#">Q9LK36</a>	SAHH2_ARATH;	<a href="#">P50245</a>	SAHH2_DROME;	<a href="#">O43865</a>	SAHH2_HUMI
<a href="#">P84532</a>	SAHH2_POPEU;	<a href="#">O93477</a>	SAHH2_XENLA;	<a href="#">Q96HN2</a>	SAHH3_HUMI
<a href="#">Q6FA43</a>	SAHH_ACIAD;	<a href="#">Q9YEF2</a>	SAHH_AERPE;	<a href="#">Q8UJ99</a>	SAHH_AGRT
<a href="#">Q8YX05</a>	SAHH_ANASP;	<a href="#">O76757</a>	SAHH_ANOGA;	<a href="#">O67240</a>	SAHH_AQUA
<a href="#">O28279</a>	SAHH_ARCFU;	<a href="#">Q64MT2</a>	SAHH_BACFR;	<a href="#">Q8A407</a>	SAHH_BACT
<a href="#">Q6G584</a>	SAHH_BARHE;	<a href="#">Q6G1D6</a>	SAHH_BARQU;	<a href="#">Q6MNC0</a>	SAHH_BDEB
<a href="#">Q7WQX5</a>	SAHH_BORBR;	<a href="#">Q7W1Z7</a>	SAHH_BORPA;	<a href="#">Q7VUL8</a>	SAHH_BORPI
<a href="#">Q89HP6</a>	SAHH_BRAJA;	<a href="#">Q8YE49</a>	SAHH_BRUME;	<a href="#">Q8FXZ7</a>	SAHH_BRUSI
<a href="#">Q62G22</a>	SAHH_BURMA;	<a href="#">Q63PT2</a>	SAHH_BURPS;	<a href="#">P27604</a>	SAHH_CAE
<a href="#">P83783</a>	SAHH_CANAL;	<a href="#">P35007</a>	SAHH_CATRO;	<a href="#">Q9ABH0</a>	SAHH_CAUCI
<a href="#">Q8KEG8</a>	SAHH_CHLTE;	<a href="#">Q7NZF7</a>	SAHH_CHRVO;	<a href="#">P61456</a>	SAHH_CORDI
<a href="#">Q8FRJ4</a>	SAHH_COREF;	<a href="#">Q8NSC4</a>	SAHH_CORGL;	<a href="#">Q83A77</a>	SAHH_COXBI
<a href="#">Q72EH1</a>	SAHH_DESVH;	<a href="#">P10819</a>	SAHH_DICDI;	<a href="#">Q27580</a>	SAHH_DROMI
<a href="#">P61617</a>	SAHH_GEOSL;	<a href="#">Q7NGI6</a>	SAHH_GLOVI;	<a href="#">Q9HN50</a>	SAHH_HALSI
<a href="#">P23526</a>	SAHH_HUMAN;	<a href="#">P36889</a>	SAHH_LEIDO;	<a href="#">Q75FU8</a>	SAHH_LEPI
<a href="#">Q8EXV1</a>	SAHH_LEPIN;	<a href="#">Q9SP37</a>	SAHH_LUPLU;	<a href="#">Q9SWF5</a>	SAHH_LYCE
<a href="#">P50246</a>	SAHH_MEDSA;	<a href="#">P93253</a>	SAHH_MESCR;	<a href="#">Q8TRA5</a>	SAHH_META
<a href="#">Q60CG8</a>	SAHH_METCA;	<a href="#">Q58783</a>	SAHH_METJA;	<a href="#">P58855</a>	SAHH_METKI
<a href="#">Q8PUQ4</a>	SAHH_METMA;	<a href="#">Q6LYR8</a>	SAHH_METMP;	<a href="#">Q27673</a>	SAHH_METTI
<a href="#">P50247</a>	SAHH_MOUSE;	<a href="#">Q7TWW7</a>	SAHH_MYCBO;	<a href="#">Q9CCJ4</a>	SAHH_MYCLI
<a href="#">Q73UK6</a>	SAHH_MYCPA;	<a href="#">P60176</a>	SAHH_MYCTU;	<a href="#">P68172</a>	SAHH_NICS
<a href="#">Q82WL1</a>	SAHH_NITEU;	<a href="#">Q5YQS7</a>	SAHH_NOCTA;	<a href="#">Q01781</a>	SAHH_PETCI
<a href="#">P50249</a>	SAHH_PHASS;	<a href="#">Q710C4</a>	SAHH_PIG;	<a href="#">P50250</a>	SAHH_PLAF
<a href="#">Q12663</a>	SAHH_PNECA;	<a href="#">Q7V9P3</a>	SAHH_PROMA;	<a href="#">Q7V926</a>	SAHH_PROMI
<a href="#">Q7UZN3</a>	SAHH_PROMP;	<a href="#">Q9I685</a>	SAHH_PSEAE;	<a href="#">Q87V73</a>	SAHH_PSESI
<a href="#">Q9UYK5</a>	SAHH_PYRAB;	<a href="#">Q8ZTQ7</a>	SAHH_PYRAE;	<a href="#">P50251</a>	SAHH_PYRFI
<a href="#">Q58275</a>	SAHH_PYRHO;	<a href="#">Q8Y387</a>	SAHH_RALSO;	<a href="#">P10760</a>	SAHH_RAT
<a href="#">Q98CM3</a>	SAHH_RHILO;	<a href="#">Q92TC1</a>	SAHH_RHIME;	<a href="#">Q7TTZ5</a>	SAHH_RHOB
<a href="#">P28183</a>	SAHH_RHOCA;	<a href="#">Q6N2N5</a>	SAHH_RHOPA;	<a href="#">Q50562</a>	SAHH_RHOSI
<a href="#">Q9ZNA5</a>	SAHH_ROSDE;	<a href="#">Q13639</a>	SAHH_SCHPO;	<a href="#">Q936D6</a>	SAHH_STRA
<a href="#">Q82DC9</a>	SAHH_STRAW;	<a href="#">Q8GGL7</a>	SAHH_STRAZ;	<a href="#">Q9KZM1</a>	SAHH_STRC
<a href="#">P26799</a>	SAHH_STRFR;	<a href="#">P50252</a>	SAHH_SULSO;	<a href="#">Q975T0</a>	SAHH_SULT
<a href="#">Q8DGC8</a>	SAHH_SYNEL;	<a href="#">Q7U9Y3</a>	SAHH_SYNPX;	<a href="#">P74008</a>	SAHH_SYN
<a href="#">Q9HKX4</a>	SAHH_THEAC;	<a href="#">Q51933</a>	SAHH_THEME;	<a href="#">Q979Z4</a>	SAHH_THEV
<a href="#">P68173</a>	SAHH_TOBAC;	<a href="#">P51540</a>	SAHH_TRIVA;	<a href="#">P32112</a>	SAHH_WHEA
<a href="#">Q8PP84</a>	SAHH_XANAC;	<a href="#">Q8PCH5</a>	SAHH_XANCP;	<a href="#">Q9PEJ1</a>	SAHH_XYLF
<a href="#">Q87EI8</a>	SAHH_XYLFT;	<a href="#">P39954</a>	SAHH YEAST;		

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All UniProtKB/Swiss-Prot entries referenced in this entry, with possibility to download in different formats, align etc.

All ENZYME/UniProtKB/Swiss-Prot entries corresponding to 3.3.1.-

All ENZYME/UniProtKB/Swiss-Prot entries corresponding to 3.3.-

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